

ANNEX 1

KNITTING TECHNOLOGY

Second Edition

A Comprehensive Handbook and
Practical Guide to
Modern Day Principles and Practices

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Knitting Technology

In single-faced structures it can only be produced on machines whose feeds or needles have a reciprocating action so that the yarn only passes across needles which are knitting, otherwise a float stitch would be produced. Held stitches of this type are used for producing three-dimensional shaping such as heel and toe pouches for footwear, held loop shaping on flat machines and designs in solid colour intarsia. Held stitches are produced in double-faced structures by holding loops on one bed whilst continuing to knit on the other thus producing horizontal welt and cord effects.

9.2

The Drop or Press-off Stitch

A drop stitch fault will result if a needle releases its old loop without receiving a new one, sometimes this technique is used to achieve a press-off on all needles in a set between garment length sequences. A drop stitch or press-off stitch is used very occasionally in flat knitting to cause certain loops in a plain structure to be much larger than the rest. Knitting takes place on only one bed of needles and selected needles in the other bed pick up loops which are immediately pressed-off by not receiving a new yarn. The yarn from the pressed-off loops flows into the adjacent loops in the other bed making them larger, giving the impression of a much coarser gauge. Drop stitch wales are sometimes used to provide a guide for the cutting operation. A secure structure is only produced when a needle retains its old loop if it does not receive a new loop.

9.3

The Float Stitch

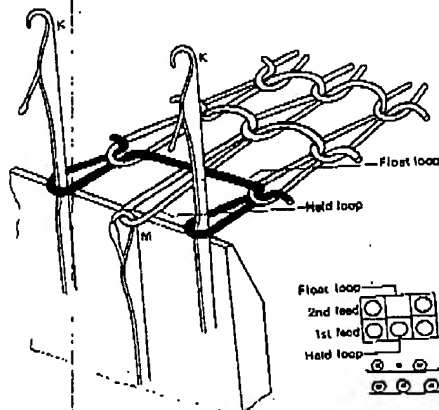


Fig. 9.1.

A float stitch (Fig. 9.1) is composed of a held loop, one or more float loops and knitted loops. It is produced when a needle (M) holding its old loop fails to receive the new yarn which passes, as a float loop, to the back of the needle and to the reverse side of the resultant stitch, joining together the two nearest needle loops knitted from it.

The float or welt stitch (Fig. 9.2) shows the missed yarn floating freely on the reverse side of the held loop which is the technical back of single jersey structures, but is the inside of rib and interlock structures. The float extends from the base of one knitted or tucked loop to the next and is notated either as an empty square or as a by-passed point, it is assumed that the

Stitches Produced by Varying the Timing of the Needle Loop Intermeshing

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courses above until a knitted
loop is indicated.

A single float stitch has the
appearance of a 'U' shape on the
reverse of the stitch. Structures
incorporating float stitches tend
to exhibit faint horizontal lines,
they are narrower because the
floats are drawn closer together
and the held loop robs yarn
from adjacent loops thus reducing
width-wise elasticity and improv-

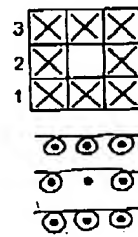
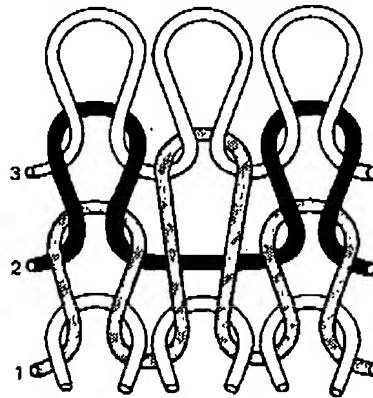


Fig. 9.2.

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Under normal take-down ten-
sion and yarn elasticity the maximum number of successive floats on the
needle is four. Six adjacent needles are usually the maximum number
for a continuous float because of reduced elasticity and problems of snagged
yarns, especially in continuous filament yarns and coarse gauges. Missing
floats are useful for hiding an unwanted coloured yarn behind the face loop of a
selected colour when producing jacquard designs in face loops of
different colours (adjacent needle floating Fig. 9.8, successive floating on
the same needle Fig. 9.9).

The miss stitch can occur accidentally as a fault as a result of incorrectly
adjusted yarn feeders.

Float Plating 9.4

Float plating pro-
duces an openwork
structure in single
yarn and involves
feeding two yarns in a
relationship to
needles having forward
floats (Fig. 9.3). A
heavy yarn (A), for
example, 30 denier, is
fed at a high level and
only received by the
needles selected to that
effect whereas the fine
yarn (B), possibly 15
denier, is fed at a lower
level and is received
by every needle. Two course

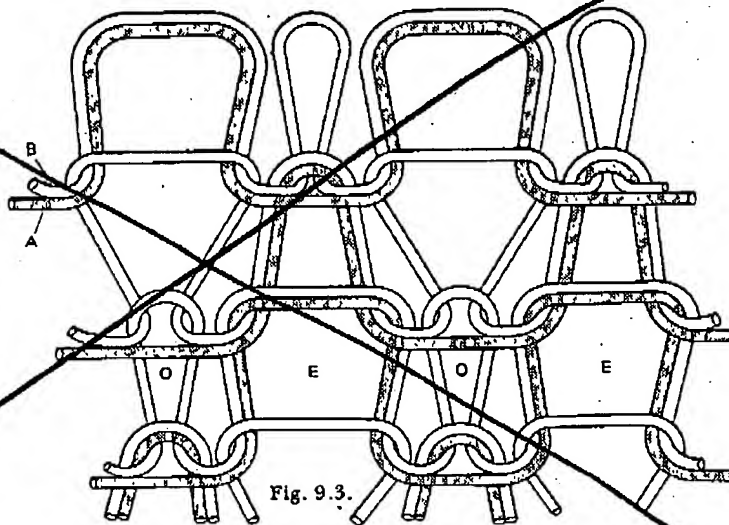


Fig. 9.3.